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OPENING MEETING OF THE 204TH SESSION

The Opening Meeting of the 204th Session will take place on Wednesday, 6th November, at 2.30 p.m. The Inaugural Address, entitled *The Next Hundred Years*, will be delivered by Sir Alfred Bossom, Bart., LL.D., F.R.I.B.A., J.P., M.P., Chairman of the Council.

After the address, silver medals for papers read during the last session, and other awards, will be presented by the Chairman, and at the conclusion of these proceedings tea will be served in the Library. It is hoped that Fellows will take this opportunity of meeting the Chairman and Members of the Council.

FURTHER CONFERENCE ON PERILS AND PROSPECTS IN TOWN AND COUNTRY

As announced in the last issue of the *Journal*, a further Conference of this title (in sequel to that which took place in October 1956) will be held at the Society's House on Thursday, 21st November. Fellows of the Society who wish to attend should apply to the Deputy Secretary before 31st October.

THE SOCIETY'S CHRISTMAS CARD

Orders for the Society's Christmas Card are now being executed, and Fellows who intend to order and have not yet done so are advised to consider their requirements as soon as they can. A specimen card will be sent on request. An order form and particulars of prices are included at the back of this issue of the *Journal*.

A NEW GRAMMAR OF ORNAMENT?

A paper by

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*Reader in Architecture, Royal College of Art,
read to the Society on Wednesday, 8th May,
1957, with R. W. Holland, O.B.E., M.A.,
M.Sc., LL.D., Chairman of Council of the
Society, in the Chair*

THE CHAIRMAN: Mr. Kadleigh is already known to some of you, who will remember no doubt that he spoke to us on the High Paddington venture. I am sure you are going to have an interesting time. The title 'A New Grammar of Ornament?' may lead us to think that we are going to talk about language, but the dictionary tells us that grammar is 'an outline of the principles of any subject', and I should like to feel that what we are going to hear is not merely the grammar, but the syntax which is the due arrangement of members in their mutual relations according to established usage. That is one definition, but we shall know better in a little time what attitude of mind Mr. Kadleigh has in this connection. We certainly need a new grammar. In my early days, when I was quite a youth, I studied what was then known as the principles of ornament, a subject which was offered for examination by the Science and Art department of South Kensington, and that subject was supposed to be the principle of 'something added to a thing to render it more beautiful to the eye'. When we think of the passage of time and of the façades of some of the buildings that are appearing in our streets we wonder what has become of that principle I hope that Mr. Kadleigh is going to tell us about it.

The following paper was then read:

THE PAPER

The title of this paper, 'A New Grammar of Ornament?', suggests that there might be, perhaps, a language of ornament complete with rules of grammar. It suggests also that Leone Battiste Alberti might have been right when he wrote in his *Ten Books on Architecture*:

Who therefore will affirm, that a handsome and just structure can be raised any otherwise than by means of Art? And consequently this part of building, which relates to Beauty and Ornament, being the chief of all the rest, must without doubt be directed by some sure rules of Art and Proportion, which whoever neglects will make himself ridiculous. But there are some who will by no means allow of this, and say that men are guided by a variety of opinions in their judgment of beauty and of buildings, and that the forms of structure must vary, according to man's particular taste or fancy, and not be tied down to any Rules of Art. A common thing with the ignorant, to despise what they do not understand.

This is a novel point of view for us to-day, when our education in art and the administration of the Acts of Parliament which control the appearance of our

Civic Scene, are based on the assumption that there are no rules in this respect and, therefore, nothing to be learnt other than the opinions which happen to be current at the time.

This attitude has prevailed for a long time now. But it seems that this might be an appropriate moment to question it; because the many years during which it has dominated our outlook have been remarkably prolific in architecture and industrial design. We are now surrounded by a wealth of practical examples of this attitude towards appearance, which exists for all to see and on which each of us can form his own opinion.

There are signs that this re-assessment is, in fact, happening—people are becoming acutely conscious of the aridity of their surroundings, the miles of well-intentioned monotony through which they have to penetrate in search of an acre of countryside, the bleak façades before which they spend so much of their day queueing for transport to reach life's necessities, the soulless lack of beauty in the new architecture and, indeed, the new life.

The visual quality of surroundings, moreover, has a profound effect on man's social existence. People are influenced by the shapes, colours and textures around them, far more than is generally supposed. The present lack of knowledge in these matters is producing an environment which materially increases social disorders, because it is quite out of sympathy with man's normal psychology. Our surroundings are being shaped with no fundamental knowledge of what quieters and what irritates, with the result that people struggling to live in this congested technological society are being starved of one of civilization's main contributions towards peace of mind.

All this is having its effect. Ministers, Commissions, Committees and elements of the public and technical press are all exhorting us to do something about it—not to put up with it, to ban the ugly and seek the beautiful. In short, the national conscience is beginning to be aroused.

We have learned through bitter experience that function and technique alone are not enough and that what is known as the 'visual side' has profound significance. With this realization has come an increasing use of ornament in industrial design, interior design, and even in architecture. This need for ornament will clearly play an important part in design in the future as, apart from the very necessary process of tidying things up and planting grass and trees, it is vital that what is added by man must be more human and acceptable than it is now.

It is clear, however, that if we try to come to terms with the 'visual side' by merely intensifying a layman's appraisal of the effect produced, instead of increasing the designer's knowledge of the fundamental qualities of the shapes, colours and textures he is creating, then the results, however well intentioned, will remain of the same quality as before. A new approach is required if we are to succeed in making our civic scene more acceptable and beautiful; an approach which no longer sits in the superstitious darkness of its own taste, but which opens the doors wide to learn and benefit from the wealth of relevant knowledge which exists in the world to-day. The mounting neurosis in a world without

a visual language is making the need for a new grammar of ornament more acute every day.

Of what should such a grammar consist? To answer this, I must first speak in broad general terms and then try to amplify my remarks with examples. The scope of the work should include architecture, interior design and industrial design, with sections on the use of colour and lettering as being common to them all. The field covered in each of these arts might embrace everything in a design which is not, strictly speaking, functional or technical; in other words, that necessary part of a design which is concerned with how the designer intends to deal with the appearance or visual impressions created by his design. Perhaps one could call this his '*Visual Plan*'.

Consider now what any 'visual plan' has to take into account. It must ensure that the design is in *scale* so that it looks right and appropriate in its setting. In addition, the design must be put together with such *symmetry* that every impression created is that of volumes and shapes in pleasant *proportion*. Finally, these qualities, once they have been established, can be underlined, amplified or enriched by the use of *ornament* to whatever degree the designer wishes.

The 'visual plan', therefore, rests on the designer's understanding of scale, symmetry and proportion—these three principles, and how to apply them in his work; also, the use of ornament, so that it can be clearly seen that they have been applied and how this has been done. These rules were derived in ancient times from philosophical concepts of the nature of the universe. But now the same rules are revealed and studied through scientific investigation. These principles, therefore, which are now revealed by science, can no longer be considered as mere philosophical conjecture.

To illustrate this, take the key principle relating to the nature of the universe, from which rules of proportion, symmetry and scale are derived. Ancient philosophy considered the universe either as material, with substance, which they called Body; or as Spirit with movement and life, which they called Soul. Body and Soul, however, were considered to be inseparable and merely indicating two aspects of the same thing. From these concepts, through the agency of number, rules of proportion, symmetry and scale were established; certain groups of proportions being related to each of these aspects of the universe.

In our century, there have been many developments in relation to the fundamental concepts of physics. The Newtonian theory of gravitation and separate theories of the waves affecting matter and the particles of matter, have given place to the theories of relativity and wave mechanics. The theory of quantum mechanics, evolved by such scientists as Max Born, Heisenberg, Schrödinger and Dirac, has done away with the idea of the 'separateness' of waves and particles. Matter can now be regarded either as particles with mass, or as energy with wave-lengths.

I do not think it is stretching things too far to say, in consequence, that modern nuclear physics provides us with a scientific basis for the rules of proportion, symmetry and scale, which up till now have only had a philosophical basis.

Far from denying the existence of such principles, modern science substantiates them and increases our knowledge of them.

Take the question of proportion, for instance. It is generally supposed that intrinsically one shape is as good as another as far as appearance goes and that the designer's choice can only be a personal one. This point of view does not agree, however, with the results of scientific investigation into man's organs of perception and their reaction to different stimuli. Man is a natural phenomenon on this planet Earth and, quite understandably, responds with greater sympathy to the reflection of natural laws in the objects he perceives through his senses. There is a whole branch of science which studies perception and is finding out many useful and valuable things for the designer.

The science of Botany and Biology can tell us much about the laws of growth which natural objects obey. These laws are clearly related to certain mathematical series which are geometric in character and which are, in fact, reflected in one section of the rules of proportion. Corroboration may be found in the research into the geometric basis of the structure of the large organic protein molecule, of which living matter is composed. Similar confirmation of the rules of proportion exists in the structure of the individual inorganic molecular 'bricks' of this large molecule, and also in the space lattices of crystallography.

The study of the actual *process* of growth in the organic world is of great help in understanding symmetry, whose rules stem from nature's 'manner of operation', so to speak, rather than the 'quality of action' as in proportion. The mitosis of cells seen in the incredibly moving chromosome dance, in which is contained the signature of a whole life's struggle as one living cell divides into two, shows how cells multiply and how a creature grows. No one who has watched this process and seen, however imperfectly, the very manner of nature's operation being made manifest to his limited senses, can fail to come away with a very different attitude towards symmetry in design. To confuse this miraculous ordered process of unfolding life with the barren conception of symmetry as two identical halves standing petrified about a central axis, marks the height of banality. This living pattern of ordered growth can be reflected through the rules of symmetry in the 'visual plan'. As in life, so in this imperfect model of life, the parts and the whole can be linked together through order and meaning.

Scale also reflects natural laws, and the rules of scale can be closely studied in nature. The relationship of the cellular, molecular and atomic worlds of matter are a manifestation of the laws of scale and demonstrate the relationship of large and small things. The rules of transition from small to large can be studied by watching the growth of a plant from a seed through all its stages to ultimate flower and fruit. Scale, so fundamental to the 'visual plan', can reflect these natural orders—the breakdown from large to small, the growth from small to large, the transition from one kind of thing to another kind of thing; none of which is arbitrary, it always obeys certain rules, which, if reflected in the visual plan, will produce the effect of complete appropriateness.

These are but a few examples to illustrate how proportion, symmetry and scale, which lie at the root of the 'visual plan', are not entirely arbitrary concepts, but

reflect natural laws in design. Scientists are discovering new and fascinating data on all this every day, which I am quite sure would be of inestimable value to architects and designers if only it were related to the appropriate aspects of their particular problems. In my opinion, the right channel exists in the interpretation of proportion, symmetry and scale in the 'visual plan'. The suggested grammar of ornament would include much of the existing information, set out in relation to these principles and thus made available to the designer.

Such information should, of course, avoid as far as possible the expression of opinion, but must be based on known scientific truths and the result of observation. It should be set out in such a way as to encourage the designer to use his own inventive genius, giving him a firm foundation upon which he can exercise his creative talents with courage and conviction. It is not intended to provide a catalogue of examples to be thumbed through and copied, but the information contained would be fully illustrated with clear diagrams and examples. In this respect, the use of film might well be worth considering to supplement the text, as there are many fundamental ideas in the visual aspect of design which are difficult to explain with clarity in words and diagrams, but which are made immediately clear when seen in motion. The grammar should be essentially a handbook of knowledge which will be of practical benefit to the designer and it is from his point of view that I shall now attempt to go into more detail.

Generally speaking, I think it may be said that there are three main approaches to ornament. First, there are those who consider it in terms of something which is simply applied to a design to make it more pleasing. Secondly, those who feel that ornament must be in some way an integral part of a design. Thirdly, those who maintain that ornament can be symbolic or rhetorical and can actually say something to the beholder. There is, of course, no 'either—or' about these points of view, they are all three equally valid, only they are different and apply to different things.

The first category, for instance, applies to design of a personal or private nature, such as people's homes. It is quite natural for a person's home to reflect his own individual taste, whether anyone else agrees with him or not. It is a private and personal matter and ornament in such cases is quite rightly simply applied to please one or, at the most, a few people. Nothing more is required than personal like and dislike. People's taste can be educated, but it is only possible to do this through actual examples—not by words. Examples of a quality which could have a definite educational influence on public taste must obviously be based on a civilized visual language; but it is this very thing which we lack at the moment.

The point of view of personal like and dislike would not be appropriate, however, to designs of a civic or public nature. It would clearly be wrong to set about designing the appearance of a town hall in the same way as the town clerk's house. The two things are different and require different ways of setting about the visual problem. In this case, a town hall or a civic centre is not a private and personal matter which concerns only a few individuals, but it is a public or civic matter which concerns a whole community. For such a problem

a less personal and more objective approach is required and one naturally turns to the second category of ornament I mentioned, ornament which forms an integral part of the whole design. For such a thing to be possible, the whole design must obviously contain something with which ornament could be integrated. By the very definition of ornament this 'something' cannot refer to function or structure; it must therefore refer to the 'visual plan'.

Through the knowledge, skill and discipline required to apply the rules of proportion, symmetry and scale to the 'visual plan', the designer will acquire a more objective and less personal attitude to his design. He will know quite clearly the precise way in which the various functional and technical elements of his design should be arranged and their exact shapes and sizes, so that the whole design is in accord with these three principles.

All this still remains, however, relatively hidden. Although the designer has arranged the whole of his design in accordance with these rules, this is not immediately apparent to the beholder. It is still, as it were, one stage removed from the person who is looking at it. The final stage of the 'visual plan' therefore is to bridge this gap with ornament.

Now we come to the third aspect I mentioned previously, namely, ornament used in its symbolic or rhetorical sense. Cathedrals, churches, and other symbols of man's aspirations, cannot be designed in the same way as civic and public buildings. They are as different from public buildings as public buildings are different from domestic houses. For this category of design, the least personal and most objective attitude to ornament is required and one looks to that aspect of ornament which can be symbolic or rhetorical. As in the previous category, the 'visual plan' has to be prepared in accordance with the rules of proportion, symmetry and scale. All the functional and technical elements have to be so arranged and precisely defined that the whole design is permeated by these three qualities. Also, as before, this takes the 'visual plan' to a stage which is once removed from the beholder, and leaves this final gap to be filled by ornament.

But here the process differs. Ornament is not only used to bring to the notice of the beholder the existence of these principles of design, but in a way which will convey to him their very meaning and man's relation to that meaning. As in the painting of icons, not a single line or colour in the ornament should be without a specific meaning, and that meaning should be a vital contribution to the totality of meaning contained in the whole design. For this, further knowledge of a different kind is necessary—knowledge which even to-day cannot be found from scientific sources. It is contained in all great philosophies, and in what used to be known as 'the science of the sciences' or the science of psychology—I mean true religion.

So far, I have spoken in general terms about the place of ornament in the designer's 'visual plan' from three different points of view, each appropriate to a certain range of design problems. Now I must say a few words about the ornament itself. The scope and possibilities of kinds of ornament are of course infinite, as they depend on man's powers of imagination and inventiveness.

To try to catalogue ornament would be a task well beyond the limitations of this paper. It is possible, however, to establish certain landmarks which can serve as points of orientation.

To begin with, ornament has certain physical properties. It is essentially either a point, a surface or a line in relation to the design as a whole; and can be expressed in the round or on the flat. The 'visual plan' is, of course, composed of the different material elements which are required for functional and technical purposes. It is these elements which in the visual sense are points, surfaces or lines in the composition. A door knob, for instance, as well as being very necessary, represents a point in the 'visual plan' related to the wall in which the door is located. In this case it is a point expressed in the round and the degree to which it is ornamented will depend on the exact weight and significance the designer wishes to place on that particular point in his 'visual plan'. Similarly, the room containing the door is also a point, as it is a complete volume, but on a bigger scale; and, of course, the whole building is a point, on a still larger scale and is given the weight and emphasis appropriate to it in its setting.

These are examples of points expressed in the round and each in its turn is composed of different surfaces. The building itself is composed of the surfaces of its external walls, the room is composed of the surfaces of its enclosing walls, the door knob is composed of the surfaces of its exterior shape. These surfaces in their turn can be flat or ornamented in the round. The external walls of a building can have a flat pattern of masonry, or the joints can be emphasized in relief presenting an all-over abstract pattern, or they can be covered in a sculptured bas-relief and there are, of course, many other possibilities. Similarly for the other surfaces I have mentioned. These surfaces can be outlined or broken down in scale by means of lines. They, too, can be expressed either in relief or on the flat. Architectural mouldings, cornices, string courses, sills, architraves, skirtings, handrails, and so on are lines in the round and can be extended to include band ornaments of all kinds.

These properties of ornament make it possible for the designer to profile his design to emphasize its proportions with every kind of line, from a hair-crack junction of material to a wide band ornament in heavy relief. The resulting quality of line can be more sensitive than in any pen drawing. The surfaces which have in this way been brought to the observer's notice as a harmonious interplay of proportions, can now be emphasized and brought into prominence, or played down and subdued as the designer wishes. He has the full scope at his disposal from a sculptured panel in relief or a mural painting, through all varieties of patterns or wallpapers, down to a simple colour and texture. This gives the designer as great a range of expression, if not greater, as the areas of colour in a painting.

The skilful handling of these properties of ornament may perhaps be called the 'technique of ornament'. It is closely related to, and influenced by, the functional and technical aspects of the design. Certain materials lend themselves more naturally to certain kinds of ornament, and certain functional requirements demand certain basic shapes. It is these practical and necessary requirements

which obviously guide the designer in this first and most fundamental aspect of ornament itself.

If the ornament has been conceived as forming an integral part of the 'visual plan', then quite naturally it should reflect in miniature the essence of that plan. On its own scale it should demonstrate the proportions and symmetry used in the whole design. It should, as it were, give variety to the basic concept of the 'visual plan' and expand and enlarge its theme.

The next aspect is the content or motif in the ornament. Motifs range from the completely representational, such as applied photography, through all the renderings of natural objects, to abstract designs and finally quite random patterns. From this great range of possible content the designer has to make his choice. Provided the skill is available, he can choose anything from as natural a rendering as the figures in the Parthenon frieze to the random arrangement of pebbles on a wall.

There are perhaps certain sources of inspiration which may help him in his choice. First, the example of nature. Nature is most prolific with her ornament and it is, of course, extremely difficult to make any authoritative pronouncement on why exactly Nature ornaments her creatures as she does. To me the most satisfying reason is that she is concerned to make them what they are to the very last degree—the very essence of themselves is brilliantly displayed in every facet of their ornament. If one uses this as a valid point of view, then the choice of motif must in some way demonstrate and underline the very essence of the design. Its essence not from the point of view of what the decorated object *does*, but from the point of view of what it essentially *is*.

Another source from which the designer might draw inspiration is in heraldry or its modern equivalent—trade marks. Included in this category are all secular symbols which have a definite meaning and a relationship to the purpose of the design. Lettering figures very prominently in this context.

Further sources exist in man's natural powers of association, his ability to connect a certain kind of feeling or emotion with some object. Advertising is largely based on a shrewd knowledge of these associations and they are often played upon quite mercilessly. This tendency in man, however, can be used to very great advantage in ornament and, in fact, a very large portion of the ornament one normally sees owes its origin to this source. Associations are, however, very much at the mercy of fashion and consequently relatively shortlived, unless the ornament itself is of such high intrinsic quality that this transcends the power of association.

Finally, there is the source of motifs which are chosen for their symbolic quality of conveying a definite meaning by what they represent as well as the rules of proportion, symmetry and scale which are clearly manifest in their design. Gothic cathedrals abound in examples of this content in ornament.

All this sounds very pedantic and gives the impression of reducing the warm and human act of Art to a set of dry formulæ. That, unfortunately, is the impression given by any language when one is wrestling with its alphabet,

its words and its grammar. Once learnt, however, it takes its natural place as a necessary vehicle for conveying meaning. For writing poetry a language of spoken sounds in the form of words linked by a grammar is necessary: for the 'visual plan' a language of visual proportions linked by a symmetry is necessary. In poetry the scale is set by the relationship of the idea which inspired the poet to other ideas: in the 'visual plan' the scale is set by the purpose of the object in relationship to other purposes.

As in other languages, the ways of using it are as numerous as the people who use it. Every designer will quite naturally use the grammar of ornament in his own particular way and certainly I do not wish to imply that this should be otherwise. It is this very difference in method which gives the richness and variety to art, and I maintain that the existence of a sound grammar will enhance this vital difference rather than subdue it.

Some examples may help to illustrate the use of such a grammar. The approach indicated here in the barest outline is, of course, my own and others might wish to employ it in another way. My first example is in the field of industrial design—a dinner service. Having achieved a satisfactory solution to the functional and technical aspects of the design, the next problem is to ensure that this solution has an equally satisfying appearance. For this a well-informed 'visual plan' is necessary.

To begin with, this plan must ensure that the design is in scale. But in scale with what? Knowledge of the principles tells one that a design is in scale when it is appropriate from every point of view. In this case one might say that it must be made of a suitable material for food and look as if it would be a pleasure to eat from it; that its shape and size must look most becoming in its setting, laid out on a table in a room; that its character must be consistent with its station in life, whether designed for family meals, formal dinners or banquets; and that it must be essentially fitting to the human beings whose purpose it serves.

Rules of proportion and symmetry, and their extension into ornament itself, are applied to achieve this result. Symmetry, based on a suitable modulus of measure, ensures that each piece is so related that the whole service is appropriate in size and shape to its setting and to human beings. If rules of proportion are followed in establishing this symmetry, then the service will gain the quality of being naturally pleasing to the human senses, each proportion contributing its own particular character.

Ornament can then be used with a technique which will underline the innate qualities in the points, lines and surfaces of the design, which have been set in proportion by means of symmetry; and with a choice of motif which will call attention to the character of the design—whether it be formal or informal—conceived with a sense of humour, a sense of pride, or quite naïvely, whichever the designer considers appropriate.

My next example is a reception room. Here again, the 'visual plan' starts with the question of scale. The room must be fitting to receive people in; it must look becoming in its setting in the building and its surroundings; its character must be consistent with the comfort and informality of a private house or the

dignity of a public building, whichever is applicable; and it must be proper to the human beings who will use it.

The elements of the 'visual plan' which constitute the points, surfaces and lines of the composition, are the room itself with its fittings and finishes, the furniture and furnishings, and any specific objects of art.

In the case of a reception room in a private house: provided the room itself is designed with a symmetry of pleasing proportions, the rest is, in my opinion, purely a matter of personal taste; the whole 'visual plan', including ornament itself, being conceived very often to set off the various objects of art such as easel paintings, sculpture, ceramics, glass, carpets, curtains, and so on, to best advantage, by providing a sympathetic background of proportions, colours and textures.

For formal reception rooms in public buildings: the proportions and symmetry based on a relevant modulus of measure, upon which the room itself is designed, should also be evident in the furniture, so that the whole reflects the qualities of the chosen proportions. Ornament can then be used to give richness and variety to these qualities and to focus attention on to the most significant places in the 'visual plan' with appropriate objects of art. The great range of possible motifs are at the disposal of the designer's inspiration to achieve the exact character required.

Even where a designer has to apply ornament to something which he has not planned himself, application of the laws of symmetry and proportion enable him to place ornament in such a way that it has a fundamental relationship to the whole that he is decorating.

My final example is from architecture—a power station. Once more the 'visual plan' starts with scale. It must be appropriate from every point of view. Dimensionally it must be related to human beings; its shape must fit the landscape in which it sits; its quality must be consistent with the power which it generates; and its character should reflect that it is the source of power for a large community.

The surrounding landscape provides the key to the relationship of the whole shape and the ground on which it sits. This shape can then be considered to lie within a theoretical space-lattice of symmetry based on suitable proportions. The three-dimensional characteristics of such a space-lattice are those of a crystal core related to human dimensions, expanding in regular proportional geometric increments such as are found in the reciprocating icosahedron and dodecahedron, to encompass the whole mass of the building, and then extending to include salient features of the surrounding landscape.

From such a template the overall shapes can be located with precision and given dimensions. Next, by means of a related symmetry, every visual feature within the general outlines can be connected in such a way that the whole building takes on the quality and character of the chosen proportions.

Ornament itself can then be incorporated to underline and emphasize all these essential visual ingredients. Skilful profiling can point out that the scale is acceptable and that the proportions are becoming, with all the subtlety at the

architect's command. Inspired choice of material and motif can augment the quality of the proportional areas to reflect the character of a power station.

At this stage it may be helpful to summarize the points I have tried to make in this paper. The case for 'a new grammar of ornament' rests on the following:

1. That there is sufficient evidence now of the results of the prevailing belief that there are no legitimate rules concerning the visual appearance of design to make a reasonable assessment of its effects upon society possible.
2. That such an assessment is in fact being made, and gives every indication that this long experiment has produced very uninspiring and even psychologically harmful results. So much so that there is a mounting pressure of public opinion to take positive and immediate steps to improve matters.
3. That this proved social failure of uninformed taste clearly indicates that there is something to be learnt after all. Hence the need for 'A new grammar of ornament'.

The remarkable advances in science over the last half century make it possible to base such a grammar on the following assumptions, which are capable of proof:

1. That the 'visual plan' for a design is as important and just as scientific as the functional and technical plan.
2. That the science of the 'visual plan' is based on principles of proportion, symmetry and scale, which were once the province of philosophy but are now being revealed by science.
3. That a different approach to the 'visual plan' is required for different categories of design problems.
4. That ornament itself represents the final step in the 'visual plan' which bridges the gap between the object and the beholder.
5. That this final step is achieved by the combination of inspiration in choosing the motif and skilled technique in applying it.

To conclude my brief and, I fear, wholly inadequate remarks on this vital social subject, may I remind you that we have tried to work without a visual language for a long time now, and the result is generally condemned as being ugly and inhuman. A language does exist, however, which is being revealed day by day through science; but long and patient work is required to re-establish its alphabet, words and grammar, in terms of to-day and to-morrow.

This work, I suggest, is just as important to human beings as the functional and technical side of design which commands large resources constantly employed in research. At present, however, scientific work on establishing the basis for a visual language remains quite neglected. Perhaps the time has come to consider how this vacuum could be filled. It would seem appropriate as a first step to establish a Research Fellowship in the '*Science of Art*' at a suitable centre, with the specific initial object of preparing 'a new grammar of ornament' on the lines suggested in this paper. The most obvious choice is the Royal College of Art, with its unique status and facilities for design research and also its close link with the Imperial College of Science and Technology.

This paper is but a crude attempt to make a start. Perhaps others, scientists and artists alike, will consider the development of our present technology into

a civilization to be an aim of sufficient importance to assist in the birth of 'a new grammar of ornament'.

DISCUSSION

BRIGADIER J. L. P. MACNAIR: We have listened to a wonderful and inspiring talk which, I hope, will bring forth great things quite apart from the specific ones which Mr. Kadleigh has called for. It is obviously based on the discovery, which we are all making now, that functionalism is not all. There is, as Mr. Kadleigh has pointed out, a connection between science and art. The scientists have been learning with some little surprise that matter is not something which is presented to them on a plate, it appears to be something which has been growing all the time; some way out in outer space things are happening of which we have only small and rather inconclusive indications here but which seem to show that something of the nature creation is continually going on. Now that is where science comes into the matter, but obviously the connection between science and art refers not so much to matter as to mind. It is perfectly clear to me in what Mr. Kadleigh says that in art also, if we are to live at all, creation has got to go on at the same time. To be a really fine architect one has to be essentially a creator. We can all see the failings of modern life where design becomes either a matter of *trying* to be original or, at the other extreme, imitates another's work.

Why is it that there can be a really first-rate creator in the sense of a designer or a writer or a musician who is actually creating something new but, when somebody comes along and puts that invention into a builder's catalogue and it is repeated many times, it becomes of very little use, even though the imitation is nearly perfect? Somebody else is working on his ideas without really understanding what he is doing. You see it all over the place in, for instance, designs that a rather pathetic builder tries to stick on to an indifferent house. He gets a mason to do the little fancy work in plaster, and another man comes along and copies it, and the effect is very, very sad. Down in Chelsea there is a street in which we have something like a village hall. The angles of the roof and the angles of the door and windows are different, but when you look at them they for some reason or other satisfy you. It is a very nice little building, not pretentious in any way. A little further down the road there is a large block of studios which is obviously put up with a view to satisfying artists. It should have been beautiful; it has a decorated entrance with fancy letters all over it; and whenever I look at it I am appalled that all the angles are wrong. I do not know if Mr. Kadleigh has any way in which he can clear up, in his projected grammar of ornament, problems of this kind.

THE LECTURER: It is difficult to answer why it is that to *design* is one thing, and yet when somebody copies it exactly it is something quite else, other than by virtue of the fact that the very process of designing or creating is entirely different from the process of copying or measuring and that this difference is quite naturally reflected in the result.

MR. L. BRADSHAW: I am extremely grateful for Mr. Kadleigh's paper. As one of the practical workers in this branch of human activity I have been obsessed by these same problems and the need for some co-ordinated effort, drive or attempt that should be made to bring about an active support to an idea—a creative idea—by evolving something in the nature of a grammar or a mathematical approach. Basically everything is mathematical when you come to regard it as being related by proportion to any object that it is going to function with or against. I think we ought to be extremely grateful, too, for Mr. Kadleigh's able and logical outline which will enable anybody in any aspect of the creative arts to work on their own lines, because it is so

broad it has no limiting boundaries, which are so apt to frustrate from the very beginning. I think also that the point he has made on the complete failure and emotional starvation which we are suffering from at the present time is a terribly important one in itself.

Recently there has been a book brought out by Dr. William Sargent on *The Battle for the Mind*, and here we find a psychological approach to the whole matter of living, from the psychological angle, from the religious and emotional angle, from the realistic angle, and the new technique of brain washing as applied to political systems. Here we come right up to the basic principles of what stimulates the human organism into activity out of its lethargy and inertia. It seems to me that the human being is more or less in a state of perpetual inertia, dependent on his environment for some form of stimulus essential to creative urge, and especially in our great modern cities by way of colour, form, pattern and symbol. It seems that this present-day life has conduced to a state of acceptance of monotony and chaos. We are no longer activated by any living motive or inner conviction, but are sleep-walkers mechanically impelled, or driven on by blind necessity, half alive and unable to realize our creative potential.

As soon as people recognize that environment is one of the most important media to stimulate the human being to creative effort, and to more and more creative experiment, the better.

THE CHAIRMAN: I feel that this is a paper that has been given to us out of the knowledge and wisdom which Mr. Kadleigh has collected, and that it is for us to read it again in due course in our *Journal*. For my part it will have to be again and again, in order to get the full concept of what is suggested by him. All I can do now is to say to Mr. Kadleigh, thank you for bringing this matter before us, thank you for the manner in which you have brought it before us. I am sure that you will agree that Mr. Kadleigh has served an excellent purpose this afternoon. I myself would go a little further than he goes in this matter of fellowships—in relation to the subject matter that he has brought before us—attached to the College of Art. I have suggested in the past, in this room, that the time has come now for us to consider very carefully whether the whole question of education for design does not need to be examined, and that it should be a matter of, shall we say, an Institute of Design where the full force of the subject could be considered on a university level. I am looking forward to the day (I shall not see it, I am too old for that, but the time will come) when this subject which has such a part to play in production and, as Brigadier Macnair has said, in creation, is so accepted that we shall feel that it is part of our university concept; and so, Mr. Kadleigh, may I say thank you for your paper once more and ask you, ladies and gentlemen, to show your appreciation in the usual way.

A vote of thanks to the Lecturer was carried with acclamation, and the meeting then ended.

ROMANCE AND POETRY IN INDIAN PAINTING

The Sir George Birdwood Memorial Lecture

by

W. G. ARCHER, O.B.E., M.A.,

*Keeper, Indian Section, Victoria and Albert Museum,
delivered to the Commonwealth Section of the Society
on Thursday, 6th June, 1957, with Sir Herbert Read,
D.S.O., M.C., Litt.D., M.A., President, Institute of
Contemporary Arts, in the Chair*

THE CHAIRMAN: It is appropriate that something should be said about Sir George Birdwood on this occasion, but I am going to leave that to the lecturer, who knows much more about Sir George Birdwood and his career than I do. I am going to confine myself to a few words about the lecturer himself.

I have known Mr. Archer for a number of years, both as a friend and as a colleague at the Victoria and Albert Museum. Before he was appointed to the post of Keeper of the Indian Section he had considerable experience in India, from which emerged a number of books with which you may be familiar. He combines, I think, in a unique way poetry and scholarship—rather an unusual combination. Some of his most remarkable work was done on the subject of the primitive poetry of India, the poetry of the Uraons, and in 1940 followed *The Blue Glove*, which is a collection of that poetry, and in 1948 *The Dove and the Leopard*. Both these books were distinguished not only for what one might call their rescue of a primitive poetry (poetry more primitive than anything we have in Europe), but for an appreciation from the point of view of a modern poet of the essential qualities of that poetry. I think that in everything that Mr. Archer has written there is this sense of the relevance of his research to the contemporary situation in the arts. He has published several books on the arts, more particularly *The Vertical Man*, which appeared in 1947 and is a study of primitive Indian sculpture, and then several books on Indian painting, amongst them *Indian Painting in the Punjab Hills* and *Bazaar Paintings of Calcutta*, culminating in a book which appeared this year *The Loves of Krishna in Indian Painting and Poetry*, a beautiful book in itself and distinguished for its sensitive handling of a very romantic theme. Mr. Archer is continuing that theme in his present lecture, and without any further introduction I am going to ask him to deliver it.

The following lecture, which was illustrated by lantern slides, was then delivered:

THE LECTURE

When Sir George Birdwood died in 1912, he was eighty years old, and more than half his life had been devoted to the study and preservation of Indian arts and crafts. His early training had not been very auspicious, for when he went to India in 1854 it was to join the Bombay Medical Service and later to serve as Professor of Anatomy and Physiology. He was, in fact, a doctor, and while most of us have reason to be grateful to that splendid profession, it is

not from doctors that we normally expect a keen enthusiasm for arts and crafts. Birdwood was different. He had a passionate love of India, especially of village India, and it was the romantic appeal of that lovely and beautiful land which aroused in him a deep sense of poetry. Yet although devoted to Indian crafts, he was oddly allergic to Indian painting and sculpture, and some of the most extraordinary remarks on Indian art ever voiced by an Englishman were made by Birdwood. When preparing the official handbook to the South Kensington collection of Indian arts and crafts—the collection of which, almost seventy years later, I myself have been privileged to hold charge—he roundly stated:

The monstrous shapes of the Puranic deities are unsuitable for the higher forms of artistic representation; and this is possibly why sculpture and painting are unknown, as fine arts, in India.

And at a famous meeting held in this very institution, he criticized that great Englishman, E. B. Havell, for suggesting that in Indian sculptures of the Buddha the world possessed one of its greatest forms of religious art, and proceeded to dismiss a particular figure of the Buddha in the following terms:

This senseless similitude is nothing more than an uninspired brazen image, vacuously squinting down its nose to its thumbs and knees and toes. A boiled suet pudding would serve equally well as a symbol of passionless purity and serenity of soul.

Such forthright remarks are very indicative of Birdwood's character, but they must not blind us to the more positive aspects of his great achievement. For Indian objects of daily use—the art-manufactures, as they were then called—he had the sincerest and most fervent admiration. The India he wished to preserve and for which he consistently fought was, in essence, the India of Gandhi—an India uncontaminated by modern industrial methods, self-supporting and free. And in a passage which shows how deep in him lay the romantic and the poet, he describes the Indian village as he fondly regarded it:

Outside the entrance, on an exposed rise of ground, the hereditary potter sits by his wheel moulding the swiftly revolving clay by the natural curves of his hands. At the back of the houses, there are two or three looms at work in blue and scarlet and gold. . . . In the street the brass-and-copper smiths are hammering away at their pots and pans; and further down, in the verandah of the rich man's house, is the jeweller working rupees and gold mohurs into fair jewellery, gold and silver earrings and round tires like the moon. . . . At half-past three or four in the afternoon the whole street is lighted up by the moving robes of the women going down to draw water from the tank, each with two or three water jars on her head: and so going and returning in single file, the scene glows like Titian's canvas, and moves like the stately procession of the Parthenaic frieze. Later the men drive in the mild grey kine from the jungle, the looms are folded up, the copper-smiths are silent, the elders gather in the gate, the lights begin to glimmer in the fast falling darkness, the feasting and the music begin. . . . The next morning with sunrise, after simple ablutions and adorations performed in the open air before their houses, their same day begins.

It is this Birdwood, the poet and romantic, the Birdwood of village India, whom we honour tonight; and in presenting some romantic Indian paintings, I should

like to think that these, if no others, might have caught his imagination and perhaps induced him to modify, if not rescind, his violent diatribes.

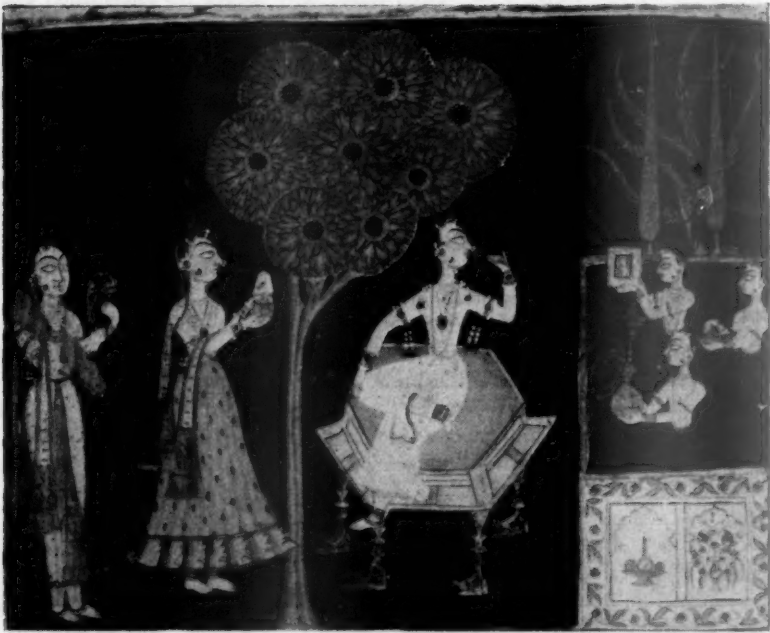
The purpose of this lecture is to trace the development of Indian painting in the Punjab Hills in Northern India during the eighteenth century. When Birdwood died in 1912, this kind of painting was only just beginning to be known and not until 1916, with Coomaraswamy's pioneer volume, *Rajput Painting*, was its existence fully revealed. It then became clear that here was an art—parallel in certain ways to Mughal miniatures—yet in others profoundly different. Its main subjects were poetry and romance. Line with its curling rhythm was employed for musical effects. Scarlet symbolized passion, and landscape was treated in a double manner—trees, flowers, rain, clouds, birds and animals all acting as symbols for the conduct and moods of human lovers. The emotional aspect of this love-painting was keenly appreciated by Coomaraswamy, but it is only during the last five to ten years that new research in India and this country has enabled us to distinguish the chief styles of painting and to reconstruct their development.

The position, as we see it today, may be summarized as follows: When we survey the period as a whole, we are confronted by two problems. At the commencement of the century, the greatest centre of painting in the Punjab Hills was a small State called Basohli. At the end of the century, Basohli had no painting and two other States, Kangra and Garhwal, had become the chief centres. Garhwal was far to the East and Kangra, although much nearer, was separated from Basohli by a wall of mountains. We are at once faced, therefore, with a major problem. Why should Basohli have relinquished its lead and why should Kangra and Garhwal have moved up in its stead?

The second problem concerns style. When we look at Basohli painting in 1700 and then at Kangra and Garhwal painting in 1800, it is clear that a vital transformation has taken place. A Basohli picture of about the year 1700 (Figure 1) shows a lady completing her toilet assisted by three maids. Above her is a tree and behind a bathing-pool are cypresses. The subject is, at first sight, romantic to a degree yet the style is stiff, savage and angular. The ladies have large fierce eyes and long straight noses. The pool is a simple flat rectangle and even the tree is shown as a group of circles. There is no attempt at portraying the body as soft and round, and the cypresses are tall and sharp as spears. The picture, in fact, is not at all concerned with feminine grace but rather with love conceived of as a fierce and terrible passion.

The same scene, or one very like it, was painted about a hundred years later by a Kangra artist.¹ The same lady is shown attended by maids and seated by a pool, yet in style no picture could be more different. The stiffness, angles and great wild eyes have gone and in their place is a series of tender graceful forms, painted with subtle feeling for delicacy of shape. The water in the pool is strewn with flowers, and these in turn suggest the flower-like beauty of the lady and her maids.

The same qualities appear in a picture from Garhwal.² This also was painted in about the year 1800 and shows a bevy of girls swimming in a pond filled with



[Municipal Building, Allahabad]

FIGURE 1. *Lady attended by her maids. Basohli, c. 1700*

lotuses. They are using pitchers to buoy them up in the water, and although the style is slightly different, its aim is exactly similar to that of the painting from Kangra. There is the same delight in graceful feminine form, the same delicacy of treatment and the same insertion of poetic images. The problem which confronts us then is this: why was the wild fierce style of Basohli discarded and from what antecedents did the graceful tender style of Kangra and Garhwal evolve?

To answer these questions will be the object of this lecture, but first we must bear in mind certain points. In the Punjab Hills there were 36 States, each ruled by a separate raja, each committed to its own type of Rajput culture, each proudly jealous. Not every State possessed painters. In fact, only when a particular ruler was keenly interested in art does painting appear to have flourished. In this connection, the size of a State was quite irrelevant, the smallest States sometimes possessing artists, the largest and greatest no artists at all. It was the personality of the ruler-patron which provided the one essential element.

With the patron bulking so large, it followed that any change of interest on the part of his successor might easily divert the local artists or affect their style.

And although no rigid rule can be framed, it appears to have been normal for the son or successor of a ruler-patron to reduce or modify existing patronage. In such circumstances, artists sometimes migrated from a court or, if they remained, adjusted their styles.

It is these two factors which probably explain the course of events at Basohli. The great Basohli style with its savage ferocity seems to have reflected the interests and personality of Raja Kirpal Pal (1678-93), and with his death a powerful stimulus abruptly ended. During the next thirty years, therefore, painting continued at Basohli, but there was a gradual mellowing of manner.

A picture in the Victoria and Albert Museum reproduced in colour in Basil Gray's *Rajput Painting* illustrates this tendency. It shows a prince embracing two girls. His arms, flung widely out, form two abrupt angles. The background is a hot yellow, the bed and canopy a flaming scarlet. The whole picture has an air of frantic violence. The faces, however, are no longer quite so ferocious, the bodies are somewhat rounder and the total impression is more gentle.

The same tendency is apparent in a picture of Radha and Krishna sitting in a wood.³ Here also the faces have lost their former sense of nervous strain. The trees have a new luxuriance, and the early liking for sharp aggressive angles has disappeared. Both pictures were painted between 1700 and 1730, and we must recognize, therefore, that even at Basohli a softening process had set in by the early decades of the century. This process did not itself evoke the delicate styles of Kangra and Garhwal but it may well have rendered easier their ultimate appearance.

A second factor, however, concerns us more. If, as seems certain, a number of Raja Kirpal Pal's artists remained at Basohli after his death, it seems at least as certain that a number migrated to nearby States. Among these States were Jammu, Chamba, Nurpur and Guler, and in this connection we must concede a third important point. When artists left one court and went to another, they took with them the style of painting to which they were accustomed. When, however, they reached another court and began to paint for a new patron, their styles began to alter. We have seen that rulers in the Punjab Hills were jealous of each other, and if an artist was to excite a ruler's fancy, he had to make the latter feel that his painting was not just the style of some other State but a definite reflection of his new patron's glory. It happens, therefore, that between the years 1700 and 1740 the Basohli style spread to other States, but in the process developed novel characters. The resulting styles were by no means equally important, but one of them, the style which evolved at Guler, is of special relevance to painting in Kangra and Garhwal.

The reasons why painting in Guler is important are fourfold. In the first place, the State is in the same valley as Kangra itself and, provided circumstances in Kangra were favourable, the style of Guler might well condition Kangra painting. Secondly, in about the year 1720, Basohli artists at Guler executed a series of large-scale pictures illustrating the *Ramayana*. One of them, formerly in the J. C. French collection and now in the British Museum, shows Rama surrounded by an army of bears and monkeys confronting a horde of demons.⁴

Various aspects of this picture connect it with Basohli—the hot red background, the Basohli-like faces. Others, however, suggest a new Guler character—the broken rim of the curving hillside, the realistic demons. If we imagine this life-like character greatly intensified, we begin to approach the naturalism of Kangra and Garhwal. The third reason involves the patron-ruler who succeeded to the Guler throne in 1744. Raja Govardhan Singh (1744–73) had no military ambitions but delighted in cultivated amusements. Among them was a keen pleasure in art, and this explains the fourth reason why Guler should have played so vital a part in the century's painting. During the early years of the eighteenth century, the Punjab Plains and Delhi itself were much disturbed by invasions. There were inroads by the Persian Nadir Shah in 1739, repeated incursions of the Afghan Ahmad Shah Durrani, and finally the sack of Delhi in 1756. We know that because of these disturbances, merchants, traders and craftsmen migrated. Artists also were caught up in these mass movements, one particular family going to Jasrota, an appendage of Jammu. From there it was tempted by Raja Govardhan Singh's enthusiasm to settle in Guler, and with the coming of these new artists a vital change ensued. The style of these new arrivals is best described as a late version of the naturalistic Mughal painting which had developed under the Emperor Akbar in about the year 1600. It was much more life-like and sophisticated, much more sensitive to personality and character than the savage Basohli manner, but at the same time it was lacking in poetry or the feeling for romance. The purpose of Mughal painting was to record actual people or actual scenes, and for this purpose the new artists at Guler had developed a style of supple outline, a flair for noting individual postures and a fluent skill in detail. On their arrival, they mingled with the local artists, and the result is the emergence of two distinct strands of art. The Mughal artists became more poetic and romantic, the immigrants from Basohli less savage and brusque. Out of this new kind of Guler painting the styles of Kangra and Garhwal were presently to emerge.

A picture reproduced in Gangoly's *Masterpieces of Rajput Painting* (pl. 35) illustrates the Mughal style acquiring Guler features. Its subject is the birth of Krishna, and we notice at once how smoothly all the figures are drawn, how subtly each person is characterized, and how full and round is each body. At the same time the composition is less congested than in much Mughal painting and already there are signs of a romantic delight in feminine form.

Simplicity of structure is even more evident in a picture of the Punjabi heroine Sohini swimming across a river to keep her tryst with Mahinwal (Gangoly, *Masterpieces*, pl. 29). The river is shown as a great open space, rimmed by jagged banks—the whole resembling the curving hillside in the picture of Rama with the bears and monkeys. The prime purpose of the picture, however, is to celebrate the girl's youthful charm, to recreate her sensitive lines and thus communicate a sense of rapture.

A similar delight in poetic romance is expressed in a picture from the Victoria and Albert Museum, *The Lady with the Hawk*.⁵ In this picture, Mughal influence can be seen in the exquisitely evoked person of the lady herself. Yet the early

Basohli strand is vigorously present in the flat background of flaming red, symbolizing the ardent passion raging in her heart and in the cypress trees pricking the background like thin black spears. Moreover, the inclusion of the hawk reminds us of the prime purpose of this painting—the interpretation of poetry. The hawk is a symbol of the lover and we thus obtain an art exquisite and delicate in execution yet availing to the full of romantic idiom.

The Lady with the Hawk is notable for a type of face quite different from the female faces in *The Birth of Krishna*, and indeed it is clear that between the years 1745 and 1770 Guler artists made many efforts to devise a satisfactory formula for female charm. The results are apparent in a picture, also in the Victoria and Albert Museum, where the face of a princess closely resembles that of *The Lady with the Hawk*, but the faces of her maids disclose a third distinct type. This new third type is particularly important for in it we recognize the features which were shortly to be standardized at Kangra.

In a picture of Radha at her toilet (Gangoly, *Masterpieces*, pl. 38), this third new type has come into its own. Not only Radha but all the ladies in the picture conform to it; yet, although the trees are painted with unassuming naturalism—the cypress is no longer a spear but a gently drooping spire—the great scarlet screen which serves as a background perpetuates the Basohli convention. Despite its close approximation to Kangra painting, the picture is therefore still from Guler, but the style has reached a point from which both Kangra and Garhwal paintings are now to develop.

The reasons for the sudden transplantation of Guler painting to these two great States can be inferred when we recall a point which we considered a little earlier. There can be hardly any doubt that the personality of Raja Govardhan Singh was a key factor in evolving the Guler manner, and his death in 1773 may well have brought about the same kind of situation as occurred in Basohli in 1693 with the death of Raja Kirpal Pal. It is even possible that before his death a few artists may have ventured to migrate, and that after his death others followed their example.

At Kangra, the crucial factor affecting their migration was the accession to the Kangra throne of a new young ruler, Raja Sansar Chand (1775–1823). Unlike his grandfather, Raja Ghamand Chand, who had made Kangra the terror of the hills, Raja Sansar Chand possessed a great flair for painting, perhaps the greatest possessed by any Indian ruler in the eighteenth century. He began to attract artists to his court, and the artists most readily available were those at Guler. Their style appears to have excited his discerning approval, but once again the very fact of migration—with its corollary, a change of patron—seems to have resulted in new stylistic forms.

A picture in the Victoria and Albert Museum shows a group of ladies performing the spring fertility festival of Holi, throwing red powder at each other and shooting coloured water out of syringes.⁶ The faces correspond to those in the Guler picture of Radha at her toilet. All possess serene nobility but there is a new delight in rhythmical line.

At the same time, as we can see from another picture in the Victoria and

Albert Museum, poetic considerations were given greater stress. This picture shows a girl swinging (Figure 2). Her posture is full of elegance, but it is the great clouds high in the sky which imbue the picture with poetry. In Indian poetry, clouds, rain and lightning were all symbolic of love-making, and thus in showing a girl gently swinging against a background of impending storm, the artist is hinting with exquisite discretion at the passionate thoughts which are passing in her mind.

A similar use of poetic imagery characterizes another Kangra picture in the Victoria and Albert Museum where a lady is shown attended by her maids. A maid-servant strives to comfort her, for she is lonely as the pet buck which rests in the courtyard. It is two maids in the left-hand corner of the picture, however, who disclose the underlying situation. Each holds in her hand a small doll or puppet, one dressed as a prince, the other as a lady. The faces of the dolls



[Victoria and Albert Museum]

FIGURE 2. *Girl swinging*. Kangra, c. 1820

are turned in opposite directions, a gap yawns between them and we realize that the cause of the lady's distress is the abrupt departure of her lover, the quarrel that has taken place between them and her anguished uncertainty as to where he has gone.

This emphasis on poetic symbols was to prove a leading aspect of Kangra painting. But it was not the only means by which Guler artists at Kangra strove to interpret the phases of romance. Recalling the symbolic associations of colour, they occasionally supplemented their evocations of graceful form by a subtle and poetic use of scarlet. A picture reproduced in N. C. Mehta's *Studies in Indian Painting* (pl. 22) shows Krishna, the divine lover, sitting on a terrace engaging a duenna in light-hearted chat. Below him stretches a field with ripening crops and by it stands a village beauty, notable for her fluid grace and scarlet skirt. Scarlet is supremely significant, for behind the house are ranks of red storm clouds, their colour establishing an intimate connection between the girl loitering in the field and the passionate meeting which will presently ensue when Krishna has concluded his banter. It was in ways such as these that romantic situations were charged with poetry, and painting in Kangra acquired its special form.

If the accession of a new patron to the Kangra throne explains the movement of Guler artists to Kangra, it is possibly the wedding of a Garhwal prince to a Guler lady which accounts for a parallel development at Garhwal between 1770 and 1800. During this time, artists whose style is obviously rooted in Guler painting were stimulated to produce similar interpretations of poetry and romance. Characteristic idioms were curling lines used for suggesting the play of water, leafless branches, and spikes of thickly clustering flowers. It is in the work of a particular master, however, that Garhwal painting reaches its greatest height. In a picture by him in the British Museum,⁷ a girl is shown hurrying through the night to meet her lover. Lightning, frail and gentle as the girl, flickers in the sky. Rain pours down and the groping trees seem almost to hide and cover her. Sprays of flowers, echoed in the pattern on her dress, suggest her youthful curves. But it is the cobras slithering in her path who mysteriously enhance the total effect of overwhelming charm. In Indian poetry snakes were often invoked as images of beauty, and village songs translated by Verrier Elwin have lines such as 'Your body is lovely as a cobra', 'A snake shines like lightning in the stream', 'Your body is soft and lustrous as a snake'. In the picture, each detail is introduced for only one purpose—to suggest the magnetic charms of the central figure.

This objective appears in another picture by the same master, in the Kasturbhai Lalbhai collection, Ahmedabad. The same girl as in the previous picture is shown seated on a bed of leaves restlessly waiting. A solitary deer represents the lover who has still to come, and pairs of birds suggest the innocent rapture which will follow their meeting.

It is in a painting of the great lovers of Rajput legend, Baz Bahadur and Rupmati, however, that Garhwal painting achieves perhaps its most poetic expression.⁸ The two lovers are shown resting on a hillside. Rupmati is sleeping

on a red coverlet, while Baz Bahadur gazes at her eyes. Two horses tethered to the left suggest the stalwart nature of their passion, two birds perching in a tree convey its tenderness, while two leopards in a distant cave express the wild ferocity of their love-making. Yet once again it is woman, the supreme object of romantic poetry, whose beauty is the picture's chief concern. A young moon hanging in the sky, a tree with frail and leafless branches parallels the innocent freshness of Rupmati's lovely form. It is with such a picture that the early style of Basohli is superseded, the graceful experiments of Guler are transformed and painting in the Punjab Hills reaches the very greatest heights of poetry and romance.

REFERENCES

1. M. S. Randhawa, *Kangra Valley Painting*, Delhi, 1954, pl. 18.
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3. *The Art of India and Pakistan*, London, 1950, pl. 101.
4. J. C. French, *Himalayan Art*, Oxford, 1931, frontispiece.
5. W. G. Archer, *Indian Painting in the Punjab Hills*, London, 1952, frontispiece.
6. W. G. Archer, *Kangra Painting*, London, 1952, pl. 6.
7. W. G. Archer, *Garhwal Painting*, London, 1954, pl. 5.
8. *Ibid.*, pl. 4.

THE CHAIRMAN: I do not propose to dispel the atmosphere of romance which Mr. Archer has created by discussing what he has said or even by inviting you to discuss it. I will just confine myself to expressing our deep appreciation of his lecture, which was not only informative, but remarkable for the beautiful choice of illustrations and the beautiful presentation of them, and our thanks for a pleasure which I am sure we have all experienced and which members of the audience would like to express again in the usual manner.

The vote of thanks to the Lecturer was carried with acclamation.

SIR SELWYN SELWYN-CLARKE, K.B.E., C.M.G., M.C. (Chairman, Commonwealth Section Committee): Before asking you to thank our Chairman for so ably conducting the proceedings, I should like to tell you something about him and why we invited him to preside this afternoon. After a distinguished career in the army in the First World War, Sir Herbert Read joined the Victoria and Albert Museum, and remained there from 1922-31. During this period he wrote a number of books on art, poetry and criticism, earning a high reputation as a poet and as a critic of art and literature. His eminence as an interpreter of the arts was recognized by his appointment as Watson Gordon Professor of Fine Art at Edinburgh in 1931, in which year he published a work of major importance in this field, entitled *The Meaning of Art*, an account of the chief periods of artistic expression from prehistoric to modern times. Two years later came Sir Herbert's *Art Now*, concerned with the æsthetic background of contemporary art. His Honorary Fellowship of the Society of Industrial Artists is a proof of his interest in applied arts, about which he wrote in 1934 in *Art in Industry*. I think Sir Herbert's chief concerns as an art critic have been with the nature of art as a creative activity, with the psychology and philosophy of the artist and his place in society, and with the educational value of art. The main direction of his writings seems to be towards a synthesis of knowledge and ideas. For these and many other reasons we invited him to preside at Mr. Archer's sensitive, thought-provoking and charming address. Will you join me in thanking our Chairman for presiding?

The vote of thanks to the Chairman was carried with acclamation, and the meeting then ended.

GENERAL NOTES

EXHIBITION OF PAINTINGS FROM TANGANYIKA

An exhibition of paintings from Tanganyika is now on view in the Pavilion of the Imperial Institute. Although the work of painters resident in Tanganyika has been seen in London, this is the first collective exhibition to be shown. Of the 130 paintings displayed, the majority are in oil or water-colour, but there are also examples of rock paintings typical of the styles and subjects found in Tanganyika.

There is no charge for admission to the exhibition, which is open at the following times until 27th October: Mondays to Fridays, 10 a.m.—4.30 p.m.; Saturdays, 10 a.m.—5 p.m.; Sundays, 2.30—6 p.m.

NOTES ON BOOKS

DESIGNERS IN BRITAIN, Vol. 5. *Compiled by the Society of Industrial Artists, Edited by Herbert Spencer, F.S.I.A. London, André Deutsch, 1957. 65s net.*

The fifth Biennial review, compiled by the Society of Industrial Artists, is a record of the present state of industrial design, and as such is of historic as well as contemporary significance. The illustrations supply an assortment of answers to the question: 'In what direction has the modern movement in design moved?' It is certainly not static, and designers have moved far away from the dreary functionalism of pre-war days, which petrified imagination, outlawed ornament, and forced many a cheerfully gay, inventive soul to become a bleak do-gooder. Furniture generally reveals the character and weaknesses of any period, and some of the chairs, desks, and other articles reflect the inhumanism of a scientific commercial age that has no time for manners and no pretensions to dignity, but others show how the great English tradition of design has transcended sterile utility. Some pieces are throwbacks, recalling prototypes produced by the Arts and Crafts movement at the end of the last century; a few have graciousness of form. You can be comfortable in the purely wallowing sense in some of the chairs, and sternly uncomfortable in many others; but both in the office and the home much of the furniture illustrated induces the uneasy feeling that you are being forcibly tidied up by a dictatorial technician who has worked at a drawing board but not at a bench. Unfortunately, the variously ingenious partnerships of wood and metal cannot mellow with age, and they are as impersonal as filing systems.

Both furniture and interiors suffer from being reproduced in black and white: contemporary design demands colour to redeem its basic austerity; and lack of colour severely injures the textile section. It is impossible to gain a fair idea of the merits of carpets, woven and printed textiles, or wallpapers, from black and white reproductions, which make some patterns seem about as decorative as bacteria on a microscope slide. It would greatly increase the cost of producing such a volume to include coloured plates, but it is unfair both to designers and manufacturers to refrain from incurring that expense.

Leather, glass and pottery fill four pages with designs that are competent but undistinguished. Radio and television sets and record players fill another three, but imagination only begins to break through in the five pages allotted to lighting. Perhaps the most instructive sections are those on domestic and industrial equipment, fields where contemporary designers excel, though one wonders why some things were included at all: for example, a battery-operated bell and a clock face with an aluminium

dial, which have about as much intrinsic interest in terms of design as a cake of soap or a tennis ball. Imagination breaks through again in the exhibition stands, which occupy thirteen pages; and, sandwiched between exhibition murals and shop and window display, are some impressive stage sets designed by Sir Hugh Casson.

The display and packaging sections are lively and hard-selling, inspired by genuine gaiety, which has restored 'all the fun of the fair' to shopping. The high-lights are the lingerie shop in Nottingham by Misha Black, the window display in Bond Street for K.L.M. Royal Dutch Airlines, by James Main, and the range of bottles and labels for wines and spirits by Milner Gray. The poster section which follows packaging demands colour as much as the textiles. In the nineteen examples shown only two depend wholly upon realism; the rest are abstract, some outstandingly vivid, like the design by Harry Stevens for a 16 sheet poster for milk. The poster designs by F. H. K. Henrion for the General Post Office, and by Abram Games for British European Airways are unforgettable. Press advertising and the design of booklets, folders and leaflets and illustrations for advertisements show that this branch of commercial art has an alert vitality, possibly because artists and typographers have more consistent opportunities for exercising their gifts than designers who work for industrial production.

Sir Ernest Goodale in his Foreword to the volume says with truth that 'the work of the commercial artists to-day compares favourably with any in the world', and this is abundantly proved from page 70 onwards. By far the most interesting sections of the book are those concerned directly or indirectly with illustration, for commercial literature, books, or magazines. Having reproduced so many examples of excellent typography in the advertisements and booklets, it is regrettable that the editor favoured the old-fashioned 'stunt' typography of the 1930s that segregates captions in neat little illegible blocks remote from their illustrations, thus securing the maximum amount of inconvenience for the reader.

JOHN GLOAG

THE SMALL HOUSE TO-DAY AND TO-MORROW. By Arnold Whittick in collaboration with Johannes Schreiner. London, Leonard Hill, 1957. 45s net

The many who are familiar with the first edition, which was published ten years ago, will find this new edition about one-third larger, with several new chapters bringing the work up to date. Some fifty new illustrations have been added and the whole is excellently put together with an adequate index, making an attractive and well-printed volume. The point of view from which the subject is treated can be best expressed in the author's own words:

There are three ways of determining the needs of people in any branch of social life; one is by asking the people themselves; the second is by consulting the views of experts (these two thus provide the external evidence), and the third is by asking oneself by the method of introspection. All are necessary, and two without the third gives incomplete and therefore unreliable results.

This attitude is maintained throughout the book and gives considerable authority to the opinions stated. 'Asking the people themselves' is largely represented by the preferences of the men and women in the Forces prior to 1947, supplemented by similar opinions expressed by the National Women's Citizens Association in 1955. 'Consulting the view of experts' is represented mainly by ideas put forward by Johannes Schreiner (a pupil of Peter Behrens and Eric Mendelsohn's principal assistant for many years), with whom the author collaborated in producing the first edition but who, unfortunately, died in Uganda in 1948. The reader may not agree with all the points made by the author, but he cannot but respect the clear reasoning behind them.

The first six chapters deal with the basic requirements for a small house and the social and economic background prevailing to-day which constitutes the 'climate' in which these needs must be fulfilled. Demand and output in post-war housing, new methods of construction, minimum standards of accommodation, developments in people's requirements, all these aspects are fully considered and, when taken together, indicate a clearly defined attitude of mind with which to approach the detailed problems of house design. Next follow ten chapters in which these detailed requirements are fully explored. Requirements such as light, heating, insulation, ventilation, food, cleanliness, quiet, leisure and safety are all discussed with considerable information and sound advice. This leads to examples of different plans and arrangements for the house itself and its more important planning elements. Apart from the usual emphasis on the layout of kitchens, utility rooms, bathrooms and entrances with some examples of standard minimum house plans, there is an interesting chapter on the 'expanding house', and also a chapter on the value of basements for many essential requirements other than habitation. The last chapters are devoted to the relationship of the house to its surroundings and a general survey of cost. Advice is given on matters of appearance and the layout and planting of small gardens. The question of different types of neighbourhoods is also discussed with examples of the broader aspect of planning whole residential areas. The appendices which follow are mainly the statistical results of questionnaires to men and women in the Forces and to the National Women's Citizens Association, giving their replies to the many questions on housing put to them by the author. For example:

Would you prefer to live in a flat or a house with a garden? In expressing your preference would you bear in mind the possibilities of flat development?

As will be seen from this brief summary, the book is a veritable encyclopaedia of information about house design. Although it contains so much information, it is surprisingly easy for the reader to find his way around and discover the references to particular aspects of design he is interested in. Furthermore, having found the relevant place in the book, he is seldom disappointed, as the information is usually there in precise terms, well illustrated by numerous drawings and photographs, and useful deductions and advice are drawn from this information.

This is a most helpful and valuable work of reference for architect and layman alike. To the layman it presents in a succinct form the many technical, social and economic issues involved in house design. For the architect it contains a valuable body of knowledge to add to his own experience.

SERGEI KADLEIGH

FROM THE JOURNAL OF 1857

VOLUME V. 9th October, 1857

THE ATLANTIC TELEGRAPH

From an eyewitness account by Professor Morse, on board the Niagara

At 3.45 in the morning, lat. 52 deg. 30 m., long. 17 deg. 30 m., Mr. Bright, the engineer, went on deck; our ship was going at the rate of four miles two fathoms per hour, and the cable running out at a greater speed, perhaps at the rate of five miles an hour. Mr. Bright spoke to the man in charge of the brakes, asking him what strain was upon the cable, to which the answer was returned, about '3,000 pounds'. Mr. Bright directed him to put a 100 pounds more of force upon

the brakes to check the speed of the cable. This was demurred to by the man for a moment, who expressed a fear that it would not be prudent. Mr. Bright, however, persevered in his orders. The brakes were applied with the additional force, which suddenly stopped the wheels of the paying-out apparatus, and of course brought the force of the unchecked speed of the ship as an addition to the strain. At this time, too, there was a moderately heavy sea, which caused the ship's stern to rise several feet, and to fall to the same degree; when the stern fell, the cable, under its immense strain, went down into the water easily and quickly, but when the stern was lifted by the irresistible power of the succeeding wave, the force exerted upon the cable, under such circumstances, would have parted a cable of four times the strength. Hence it is no wonder that our cable, subjected to such a tremendous and unnatural strain, should snap like a pack-thread. It did snap, and in an instant the whole course and plan of our future proceedings were of necessity changed. How many visions of wealth, of fame, and of pleasure were dependent for their realization on the integrity of that little nerve-thread, spinning out like a spider's web from the stern of our noble ship, and (in view of the mighty force of steam, and waves, and winds, and mechanism, brought to bear upon it) quite as frail! Yet, with all its frailness, nothing could exceed the beauty of its quiet passage to its ocean bed, from the moment we had joined it to the shore end until the fatal mistake of Mr. Bright, which caused the breaking of it asunder. The effect on ship-board was very striking. It parted just before daylight. All hands rushed to the deck, but there was no confusion; the telegraph machinery had stopped; the men gathered in mournful groups, and their tones were as sad, and voices as low, as if a death had occurred on board. I believe there was not a man in the ship who did not feel really as melancholy as if a comrade had been lost overboard.

Some Activities of Other Societies and Organizations

MEETINGS

MON. 14 OCT. Electrical Engineers, Institution of, Savoy Place, W.C.2. 5.30 p.m. Discussion: *The Social consequences of automation.*

WED. 16 OCT. Electrical Engineers, Institution of, Savoy Place, W.C.2. 5.30 p.m. J. S. McPetrie: *Some radio aids for high-speed aircraft.*

FRI. 18 OCT. Rural England, Council for the Preservation of, at White Rock Pavilion, Hastings. 10 a.m. James Callaghan, M.P.: *Oil pollution of the sea.*

SAT. 19 OCT. Rural England, Council for the Preservation of, at White Rock Pavilion, Hastings. 10.30 a.m. Mr. W. M. Whiteman: *Caravans and the English landscape.*

MON. 21 OCT. Computer Society, British, at Senate House, Malet Street, W.C.1. 6.15 p.m. Professor D. R. Hartree: *The machine's eye-view.*

Geographical Society, Royal, 1 Kensington Gore, S.W.7. 8.30 p.m. P. G. Mott: *Mapping Antarctica from the air.*

TUES. 22 OCT. Works Managers, Institution of, at Royal Society of Arts, W.C.2. 7.45 p.m. E. Fletcher: *The Trade Unions and productivity.*

WED. 23 OCT. African Society, Royal, at Royal Society of Arts, W.C.2. 5.15 p.m. Patrick Barnes: *The beautiful land of Africa.*

Foundrymen, British Institution of, at Constitutional Club, Northumberland Avenue, W.C.2. 7.30 p.m. J. A. Hulston: *Aids to automation.*

Kinematograph Society, British, at Royal Society of Arts, W.C.2. 7.30 p.m. John Lamont, R. Evans and W. H. Cheevers: *Special techniques in T.V. film production.*

Locomotive Engineers, Institution of, 1 Birdcage Walk, S.W.1. 5.30 p.m. Dr. Ing. G. Wilke: *Modern battery railcars.*

Metallurgical Society, Manchester, at Central Library. 6.30 p.m. Professor F. C. Thompson: *Early metallurgy.*

THURS. 24 OCT. Electrical Engineers, Institution of, Savoy Place, W.C.2. 5.30 p.m. J. Podolski: *The Post-war electrification of the Polish state railways.*

FRI. 25 OCT. Engineers, Junior Institution of, at 14 Rochester Row, S.W.1. 7 p.m. S. J. Crispin: *Rocks and sands.*

OTHER ACTIVITIES

NOW UNTIL 17 OCT. Building Centre, 26 Store Street, W.C.1. Exhibition: *The career of landscape architecture.*

NOW UNTIL 25 OCT. International poster exhibition at Hulton House, Fleet Street, E.C.4.

WED. 16 OCT. Building Centre, 26 Store Street, W.C.1. 12.45 p.m. Film Show: (i) *Rubber in engineering.* (ii) *Rubber in roads.*

THURS. 17 OCT. National Book League, 7 Albemarle Street, W.1. Mon.-Fri. 11 to 6.30; Thurs. 11 to 8; Sat. 11 to 5. Exhibition: *Fashion and beauty.*

WED. 23 OCT. Building Centre, 26 Store Street, W.C.1. 12.45 p.m. Film Show: *Building with straw.*

WED. 23 OCT. Free illustrated lecture, at Victoria & Albert Museum, S.W.7. 6.15 p.m. Sir Anthony Blunt: *William Blake—the artist.*